

Clinical trial to treat septic shock under way at UMC

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The death rate can be as high as 60 percent for people with underlying medical problems, and some 250,000 Americans die of severe sepsis annually.

A clinical trial of a new device to treat severe [sepsis](#) – the leading cause of death in hospital intensive care units – is under way at University Medical Center.

"This study is important because sepsis is a life-threatening illness, and it's increased every year in the past 20 years despite all our advances in medicine," said Dr. Harold Szerlip, professor in the University of Arizona Department of Medicine and UA principal investigator of the clinical trial coordinated through the UA Clinical and Translational Sciences Research Center.

Sepsis is caused by a bacterial infection that can begin anywhere in the body. Common places where an infection might start include the bowel (peritonitis), kidneys (urinary tract infection) or the lungs (bacterial pneumonia).

In sepsis, blood pressure drops, resulting in shock. Major organs and systems, including the kidneys, liver, lungs and central nervous system, stop functioning normally. The death rate can be as high as 60 percent for people with underlying medical problems, and some 250,000 Americans die of severe sepsis annually, Szerlip said.

Jim Henson, creator of the Muppets, and more recently, Brazilian model Mariana Bridi da Costa, succumbed to [severe sepsis](#).

Sponsored by Spectral Diagnostics Inc., the double-blinded national study is dubbed EUPHRATES – Evaluating the Use of Polymyxin B Hemoperfusion in a Randomized Controlled Trial of Adults Treated for Endotoxemia and Sepsis Shock.

The U.S. Food and Drug Administration granted Spectral Diagnostics permission to proceed with a clinical trial. UMC is one of 15 hospitals participating in the trial nationwide.

EUPRHATES compares the safety and efficacy of a Spectral Diagnostics device, already widely used in Europe and Japan, that measures and removes bacterial toxins from the blood, against standard medical therapy alone.

By decreasing these toxins in the bloodstream, it is thought the device allows the patient's own immune system to recover.

"Even in this age of antibiotics, we still see infections that can overwhelm patients in hours or days, especially in those whose immune systems are weakened by disease or age," Szerlip said. "Any treatment that can halt a downward spiral into septic shock would be a huge leap for medicine. That's what we hope this research will tell us."

Provided by University of Arizona

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